CLAIMS

1. A method of sorting postal items in a plurality of sorting passes using at least one sorting machine (1) having sorting outlets (3) constituted by bins (4), each postal item having a surface carrying a destination address (A) suitable for being recognized in the sorting machine by a data processor system (10) for automatically recognizing addresses by OCR and/or video coding, the method being characterized by the following steps:

during the first sorting pass, loading interchangeable empty bins into the sorting outlets of the machine, each bin carrying a bin identification number (Bin_ID), and communicating (30) the identification numbers of the empty bins to the data processor system; forming (31) an image of the surface of each postal item as each item passes through the sorting machine, said image including the address information of the item, and deriving (32) from said image a digital fingerprint (V_ID) which is an identifier of the postal item, and as said items are directed towards the sorting outlet bins, recording (33, 34) in the data processor system the digital fingerprints of the postal items in association with the identification numbers of the corresponding sorting outlet bins, and counting the postal items sent to each sorting outlet bin; and

during the second sorting pass on the same sorting machine or on another sorting machine, loading the full sorting outlet bins into the sorting machine while informing (40) the data processor system of the identification number of each loaded full bin, building up a database (DB) in the data processor system, the database comprising a collection of digital fingerprints as recorded during the first sorting pass in association with the sorting outlet bin identification numbers and corresponding to the identification numbers of the full bins that are loaded into the machine as postal items taken from the loaded full bins pass through the sorting

machine, forming (43) an image of the surface of each current postal item, which image includes the address information of the item, deriving an intermediate digital fingerprint from this image of the current postal item, assessing and scanning (44) the database in order to detect a match between the intermediate digital fingerprint of the current postal item and a digital fingerprint in the database, and updating (51) the database by counting (46, 47, 48) the matches obtained for each loaded bin and the consecutive accesses to the database made without obtaining a match.

2. The method of claim 1, in which if a match is detected during the scan of the database, the corresponding digital fingerprint is marked in the database.

3. The method of claim 1 or claim 2, in which the bin identification numbers are picked up by reading a bar code applied to each bin.

4. The method of any one of claims 1 to 3, in which a two-component digital fingerprint (V_ID) is deduced from the digital image of the surface of an item, a first component (PC) being representative of a digital characteristic of the physical image, and a second component (SC) being extracted by optical character recognition (OCR) in the digital image.

5. The method of claim 4, in which the first component (PC) of the digital fingerprint is extracted by statistical analysis of the luminance of points of the digital image.

6. The method of claim 4, in which the first component (PC) of the digital fingerprint is constituted by data representative of variation of the luminance values in the digital image.

7. The method of claim 4, in which the first component (PC) of the digital fingerprint is constituted by data representative of variation of the luminance values in distinct portions of the digital image.

8. The method of claim 4, in which the first component (PC) of the signature is constituted by histograms representative of the distribution of luminance values in distinct portions of the digital image.

9. The method of claim 7 or clam 8, in which the distinct portions of the digital image are derived from different grids (M1, M2, M3) in the digital image.

10. The method of claim 4, in which the second component (SC) of the digital fingerprint is constituted by data specifying the position of at least one information block in the digital image.

11. The method of claim 1, in which the second component (SC) of the digital fingerprint is constituted by a textual description of at least one information block in the digital image.

12. A postal item sorting machine arranged to execute the method according to any one of claims 1 to 11.